

**REMARKS**

Claims 1-23 were pending in this application.

Claims 4-23 have been withdrawn.

Claim 1 has been rejected.

Claims 2 and 3 have been objected to.

Claim 1 has been amended as shown above.

Claims 1-23 remain pending in this application.

Reconsideration and full allowance of Claims 1-23 are respectfully requested.

**I. ALLOWABLE CLAIMS**

The Applicants thank the Examiner for the indication that Claims 2 and 3 would be allowable if rewritten in independent form. Because the Applicants believe that the remaining claims in this application are allowable, the Applicants have not rewritten Claims 2 and 3 in independent form.

**II. OBJECTION TO DRAWINGS**

The Office Action objects to the drawings, stating that corrected drawings labeled "REPLACEMENT SHEET" and incorporating the amendments to Figure 15 are required. The Applicants have included a replacement sheet incorporating the prior amendments to Figure 15. Accordingly, the Applicants respectfully request withdrawal of the objection to the drawings.

### III. OBJECTION TO SPECIFICATION

The Office Action objects to an informality in the specification. The Applicants have amended the specification to correct the noted informality. Accordingly, the Applicants respectfully request withdrawal of the objection to the specification.

### IV. REJECTION UNDER 35 U.S.C. § 102

The Office Action rejects Claim 1 under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent Publication No. 2003/0016762 to Martin et al. ("Martin"). The Applicants respectfully traverse this rejection.

A prior art reference anticipates a claimed invention under 35 U.S.C. § 102 only if every element of the claimed invention is identically shown in that single reference, arranged as they are in the claims. (*MPEP* § 2131; *In re Bond*, 910 F.2d 831, 832, 15 U.S.P.Q.2d 1566, 1567 (*Fed. Cir.* 1990)). Anticipation is only shown where each and every limitation of the claimed invention is found in a single prior art reference. (*MPEP* § 2131; *In re Donohue*, 766 F.2d 531, 534, 226 U.S.P.Q. 619, 621 (*Fed. Cir.* 1985)).

*Martin* recites a phase shift key modulator 100 that includes an n-phase oscillator 108. (*Figure 1; Par. [0031]*). The oscillator 108 includes multiple variable propagation delay differential inverters 202 arranged in series. (*Figure 2; Par. [0035]*). Each pair of inverters 202 forms a stage of the oscillator 108. (*Par. [0035]*). A frequency divider 204, phase detector 206, oscillator 208, and low pass filter 210 are used to lock the oscillation frequency of the ring of inverters 202 to a specified value. (*Par. [0036]*).

Claim 1 recites a variable phase-shifting circuit that includes “at least one control input” for receiving a “control signal” which controls a “phase-shift” of an “output signal” with respect to an “input signal.” Claim 1 also recites a “synchronized oscillator” having a “variable free-running oscillation frequency” controlled by the “control signal.”

*Martin* fails to anticipate a “synchronized oscillator” having a “variable free-running oscillation frequency” controlled by a “control signal,” where the “control signal” controls a “phase-shift” of an “output signal” with respect to an “input signal.”

First, *Martin* does recite that each individual inverter 202 has an associated “phase difference.” However, each individual inverter 202 in *Martin* is not an “oscillator” as recited in Claim 1. As a result, each individual inverter 202 in *Martin* cannot anticipate the “synchronized oscillator” recited in Claim 1.

Second, the ring of inverters 202 in *Martin* form a ring oscillator. However, the phase shift of the output produced by the ring of inverters 202 in *Martin* is not variable with respect to the input provided to the ring of inverters 202. Instead, the output from the ring of inverters 202 in *Martin* is connected to the input of the ring of inverters 202. Because of this, the input to the ring of inverters 202 and the output from the ring of inverters 202 do not have a phase shift with respect to each other. As a result, the ring of inverters 202 in *Martin* cannot anticipate the “synchronized oscillator” recited in Claim 1.

For these reasons, the Office Action has not shown that *Martin* anticipates the Applicants’ invention as recited in Claim 1. Accordingly, the Applicants respectfully request withdrawal of the § 102 rejection and full allowance of Claim 1.

V. **CONCLUSION**

The Applicants respectfully assert that all pending claims in this application are in condition for allowance and respectfully request full allowance of the claims.

**SUMMARY**

If any outstanding issues remain, or if the Examiner has any further suggestions for expediting allowance of this application, the Applicants respectfully invite the Examiner to contact the undersigned at the telephone number indicated below or at [wmunck@davismunck.com](mailto:wmunck@davismunck.com).

The Commissioner is hereby authorized to charge any fees connected with this communication (including any extension of time fees) or credit any overpayment to Deposit Account No. 50-0208.

Respectfully submitted,

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